

U.S.S.N. 10/057,025

Listing of the Claims

1. - 10. (Previously withdrawn)

11. (Currently Amended) A thermal bubble inkjet head having a symmetrical off-shooter heater comprising:

a silicon substrate having a top surface and a bottom surface;

a first insulating material layer of at least 1000Å thick on said top surface;

a funnel-shaped manifold formed in said silicon substrate;

a symmetrical ring-shaped heater formed on said first insulating material layer on said top surface;

an interconnect formed of a conductive metal in electrical communication with said ring-shaped heater;

a ~~third~~ second insulating material layer on top of said ring-shaped heater and said first insulating material layer;

a first photoresist layer of at least 2000Å thick on top of said ~~third~~ second insulating material layer;

an ink chamber formed in said first photoresist layer in fluid communication with said funnel-shaped manifold;

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a metal seed layer on said first photoresist layer and an inkjet orifice formed in said metal seed layer; and

a Ni layer on top of said metal seed layer with an aperture formed therein in fluid communication with said inkjet orifice.

12. (Original) A thermal bubble inkjet head having a symmetrical heater according to claim 11, wherein said first photoresist layer preferably has a thickness of at least 5000Å.

13. (Original) A thermal bubble inkjet head having a symmetrical heater according to claim 11, wherein said inkjet orifice is formed in close proximity to said symmetrical ring-shaped heater.

14. (Previously Amended) A thermal bubble inkjet head having a symmetrical heater according to claim 11, wherein said first insulating material layer is a SiO₂ layer or a Si₃N₄ layer.

15. (Original) A thermal bubble inkjet head having a symmetrical heater according to claim 11, wherein said symmetrical ring-shaped heater is formed of TaAl.

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16. (Original) A thermal bubble inkjet head having a symmetrical heater according to claim 11, wherein said metal seed layer is deposited of Cr or Ni.

17. (Original) A thermal bubble inkjet head having a symmetrical heater according to claim 11, wherein said ring-shaped heater is positioned juxtaposed to said inkjet orifice.

18. (Original) A thermal bubble inkjet head having a symmetrical heater according to claim 11, wherein said ring-shaped heater is positioned in said ink chamber.

19. (Original) A thermal bubble inkjet head having a symmetrical heater according to claim 18, wherein said inkjet orifice is formed in said ink chamber opposite to said ring-shaped heater.

20. (Original) A thermal bubble inkjet head having a symmetrical heater according to claim 11, wherein said inkjet head is a monolithic head.